

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

In the Matter of	)	
	)	
Digital Audio Broadcasting Systems	)	MM Docket No.99-325
And Their Impact On The Terrestrial	)	
Radio Broadcast Service	)	

THESE COMMENTS ARE IN RESPONSE TO FURTHER  
NOTICE OF PROPOSED RULEMAKING AND NOTICE OF  
INQUIRY ADOPTED APRIL 15, 2004.

TO: The Commission

COMMENTS OF SUSQUEHANNA RADIO CO.

These comments are filed in response to the Further Notice of Rulemaking and Notice of Inquiry dated April 15, 2004 concerning Digital Audio Broadcasting Systems and Their Impact on Terrestrial Radio Broadcast Services. Susquehanna Radio Corp. is a privately held company that has served the public as a radio broadcast licensee for sixty-two years. Susquehanna owns and operates eleven AM and twenty-three FM stations.

Susquehanna has been a strong proponent of the In-Band/On-Channel (IBOC) concept since the idea was first conceived and supported the efforts of iBiquity in the development of both its AM and FM systems. As of this date, Susquehanna has eight FM stations broadcasting HD Radio and is in the process of installing HD Radio in two additional stations that will soon be in operation. It is Susquehanna's intent to add digital to all of its stations over the next several years.

In this Notice of Proposed Rulemaking the commission seeks comments on what changes in its rules would likely encourage broadcasters to convert to IBOC. Susquehanna believes there are specific policies and rules that should be addressed immediately and others, in Susquehanna's opinion, would be better addressed at a future date.

### **Permanent Authorizations are Needed Now.**

The commission can best speed up the conversion to IBOC by adopting rules that will make the present "interim authorizations" permanent. The nature of permanent authorizations will provide a certain degree of comfort to broadcasters and receiver manufacturers as they consider their investment in IBOC.

Susquehanna agrees with the commission that the conversion to IBOC should follow the model of TV conversion from black and white to color rather than the congressional mandated digital TV conversion. The marketplace, not government, should control the pace of IBOC conversion. Forcing consumers to purchase new digital receivers is not in anyone's best interest.

Permanent authorizations that will insure the future of IBOC from a regulatory standpoint and the freedom to develop new and improved services is the best way the commission can accelerate the conversion to digital and help produce receivers that the public will want to purchase.

### **High Definition Digital Audio Broadcasting**

The commission seeks comments concerning potential requirements for a station to provide a minimum degree of audio quality in its main digital channel. The amount of digital bandwidth required for high quality audio reproduction has changed over recent years. Ten years ago it was thought that 256 kbps was necessary for high quality digital broadcast. As compression algorithms improved, 128 kbps and later 96 kbps were found to be "near CD quality". The results of recent listening tests submitted by iBiquity to the NRSC show no significant difference between the HDC codec at 96 kbps and 64 kbps. It is reasonable to assume that further codec developments will provide similar quality at

lower bit rates.

The iBiquity HD radio system, designed to operate at a maximum of 96 kbps, is extremely flexible and capable of assigning bandwidth to the main channel in 8 kbps steps. iBiquity claims that receivers manufactured today will be backward compatible and will perform properly at any reduced bandwidth that may be transmitted in the future. Because of this system flexibility and the potential of future codec improvements, Susquehanna urges the commission to set no minimum requirements for audio quality at this time.

### **Multicasting and Datacasting**

The transition to digital broadcasting using IBOC technology is in its infancy. The flexibility of the HD Radio system and its ability to offer a variety of ancillary services is key to providing rapid acceptance by broadcasters, receiver manufacturers, and the listening public.

The possibility of adding 5.1 or surround sound to new digital service is exciting and can provide the listening public with a more enhanced listening experience similar to that is available in theater systems and digital television.

The potential of a Secondary Audio Service as tested by National Public Radio can provide a wide range of audio services that can be used for public safety, niche programming for under served segments of the community.

The range of possible use of this data stream for specialized datacasting services is endless.

Susquehanna suggests that the commission move slowly in adopting any rule or policy that may restrict innovation in the development of the ancillary services that will be possible through IBOC. The commission should provide stations with the flexibility needed to develop these new and innovative services many of which are evident today and others that are yet to be discovered.

Susquehanna views these ancillary data services available with IBOC simply as an enhanced version of what are available today through analog SCAs. It seems appropriate that the Sections 73.127, 73.293 and 73.295 of the commission's rules governing the use of analog SCAs be extended to govern the rules of all IBOC ancillary datacasting until such time that these new digital services develop and the need and type of rules and policies required become more apparent.

### **Separate antenna issue for FM**

On March 17, 2004 the commission issued a Public Notice that allowed FM stations to request a STA in order to commence IBOC operations utilizing separate antenna systems that met certain criteria. Separate antennas may be the only economically feasible means to implement IBOC at many FM stations. Unfortunately, such installations require not only the capital expenditures for antennas and transmission line but often require the station to enter into a long term tower space rental agreement for this second antenna. Broadcasters recognize the temporary nature of a STA and may be reluctant to make the commitment on this basis. Susquehanna suggests that the authorization of separate antennas should not be limited to the conditions stated in the March 17, 2004 Public Notice, but that permanent authorizations should be issued to any FM station that can make a satisfactory showing that its IBOC radiated signal is no greater than 20 dB below that of the analog signal in any direction.

### **NRSC Standards**

As the commission is aware, the NRSC is in the process of developing voluntary industry standards for both AM and FM IBOC transmission systems. The standard setting process is time-consuming but this committee is working diligently to analyze and incorporate within its proposed standard, technical details as they are received from iBiquity. Susquehanna believes this work will be completed before the end of the year and suggests that the commission consider these documents when they become available.

## **Future Review and Additional Proposed Rulemaking**

Susquehanna urges the commission to act promptly and develop rules to govern the areas of regulation listed above in order to expedite the conversion to IBOC. As this technology matures and receivers are in the hands of consumers the commission should review its rules and consider new rules when and where appropriate.

Specific rules dealing with the number of audio streams, program diversity, local origination and community needs requirements, leasing of unused capacity, program identification, subscription services, etc. could be best addressed at a future date.

Susquehanna believes that the commission should at this time adopt a flexible policy permitting radio stations to provide any and all types of datacasting services.

Until IBOC matures, the commission should simply apply the applicable portions of Sections 73.127, 73.293, and 73.295 to multicasting and datacasting services that will become available with IBOC.

Due to the many uncertainties associated with the development of IBOC and the ancillary services available with this technology, it is difficult to forecast when the commission should review its rules but quite likely the commission will know that time when it arrives.

Respectfully Submitted,

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